CLAIMS

1. A verification method for verifying the identity of an object from a verification measurement which characterizes said object, and from a pre-stored enrollment measurement,

wherein the enrollment measurement and the verification measurement are modeled as a first and a second realization of a first random variable affected by an enrollment noise and a verification noise, respectively, said enrollment noise being a realization of a second random variable, said verification noise being a realization of a third random variable, said first, second and third random variables having known distributions,

said verification method comprising the steps of :

- calculating, for said enrollment measurement and said verification measurement, the value of a function of the ratio of a bivariate joint probability density function under a first hypothesis and a second hypothesis, said first hypothesis being that said first and second realizations of the first random variable are the same, said second hypothesis being that said first and second realizations are different,

- taking a decision whether or not the enrollment measurement and the verification measurement are from the same object by comparing the calculated value with a threshold value.

2. A verification method as claimed in claim 1, wherein said function is a logarithmic function.

3. A verification method as claimed in claim 1, wherein said known distributions are Gaussian distributions.

4. An identification device intended to receive a verification measurement which characterizes a user, said identification device comprising :

- storage means for storing an enrollment measurement,

- verification means for verifying the identity of said user from said verification measurement and said enrollment measurement,

wherein the enrollment and the verification measurements are modeled as a first and a second realization of a first random variable affected by an enrollment noise and a verification noise

respectively, said enrollment noise being a realization of a second random variable, said verification noise being a realization of a third random variable, said first, second and third random variables having known distributions,

and said verification means comprising :

-     means for calculating, for said enrollment measurement and said verification measurement, the value of a function of the ratio of a bivariate joint probability density function under a first hypothesis and under a second hypothesis, said first hypothesis being that said first and second realizations of the first random variable are the same, said second hypothesis being that said first and second realizations are different,

-     means for taking a decision whether or not the enrollment measurement and the verification measurement are from the same object by comparing the calculated value with a threshold value.

5. An identification device as claimed in claim 4, wherein said measurements are measurements of a physiological or a behavioral characteristic of said user.

6. An identification device as claimed in claim 4, wherein said known distributions are Gaussian distributions.

7. A smart card comprising an identification device as claimed in claim 4 or 5.

8. A reading/writing device for reading and/or writing data from/onto a record medium, said reading/writing device having :

-     measurement means for generating a measurement which characterizes a record medium, said measurement uniquely identifying said record medium,

-     verification means for verifying the identity of a record medium from a verification measurement which characterizes said record medium and an enrollment measurement,

wherein the enrollment and the verification measurements are modeled as a first and a second realization of a first random variable affected by an enrollment noise and a verification noise, respectively, said enrollment noise being a realization of a second random variable, said verification noise being a realization of a third random variable, said first, second and third random variables having known distributions,

and said verification means comprise :

- means for calculating, for said enrollment measurement and said verification measurement, the value of a function of the ratio of a bivariate joint probability density function under a first hypothesis and under a second hypothesis, said first hypothesis being that said first and second realizations of the first random variable are the same, said second hypothesis being that said first and second realizations are different,

- decision means for taking a decision whether or not the enrollment measurement and the verification measurement are from the same record medium by comparing the calculated value with a threshold value.

9. A reading/writing device as claimed in claim 6, comprising a reading/writing unit and control means for generating a control signal that is intended to control said reading/writing unit, wherein said measurement means comprise processing means for generating a set of values representing the frequency spectrum of said control signal when reading/writing data from/onto a record medium, said set of values constituting the measurement characterizing said record medium.

10. A program comprising code instructions for implementing a verification method as claimed in claim 1 or 2 when said program is executed by a processor.